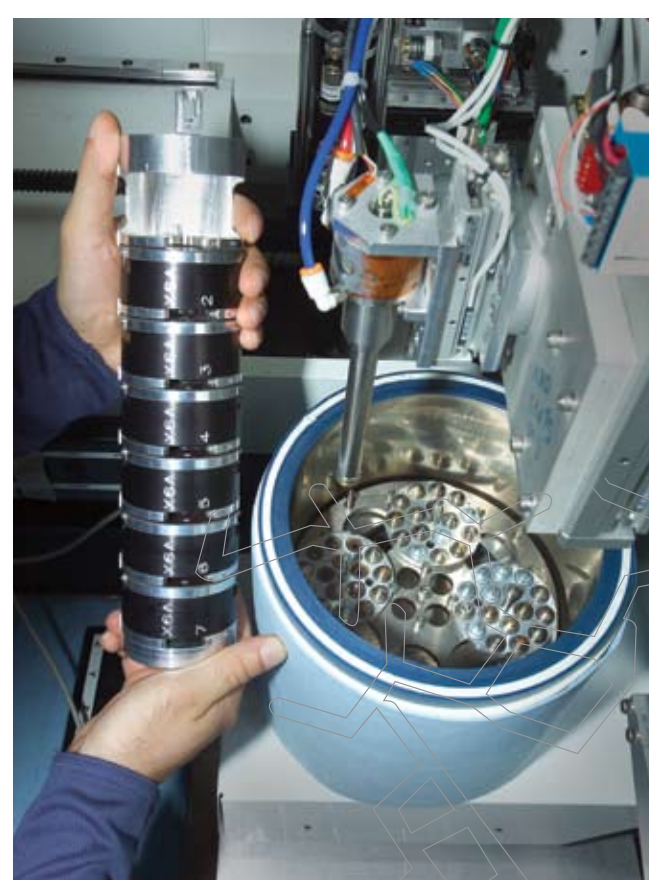


High Throughput Protein Crystallography at the NIGMS East Coast Structural Biology Facility

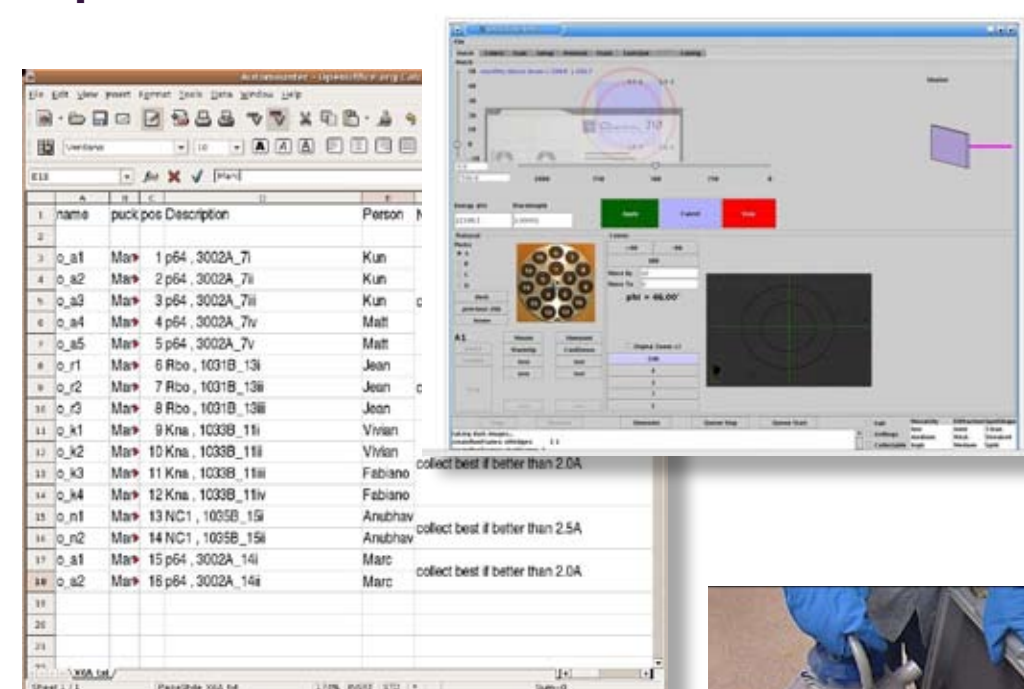
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<http://protein.nsls.bnl.gov>

The NIGMS facility at the National Synchrotron Light Source, beam line X6A, can handle high sample throughput and projects with special requirements. An automated sample changer designed by the ALS allows for fast sample screening. Projects with special requirements or in need of specific experimental set-ups can easily be accommodated.



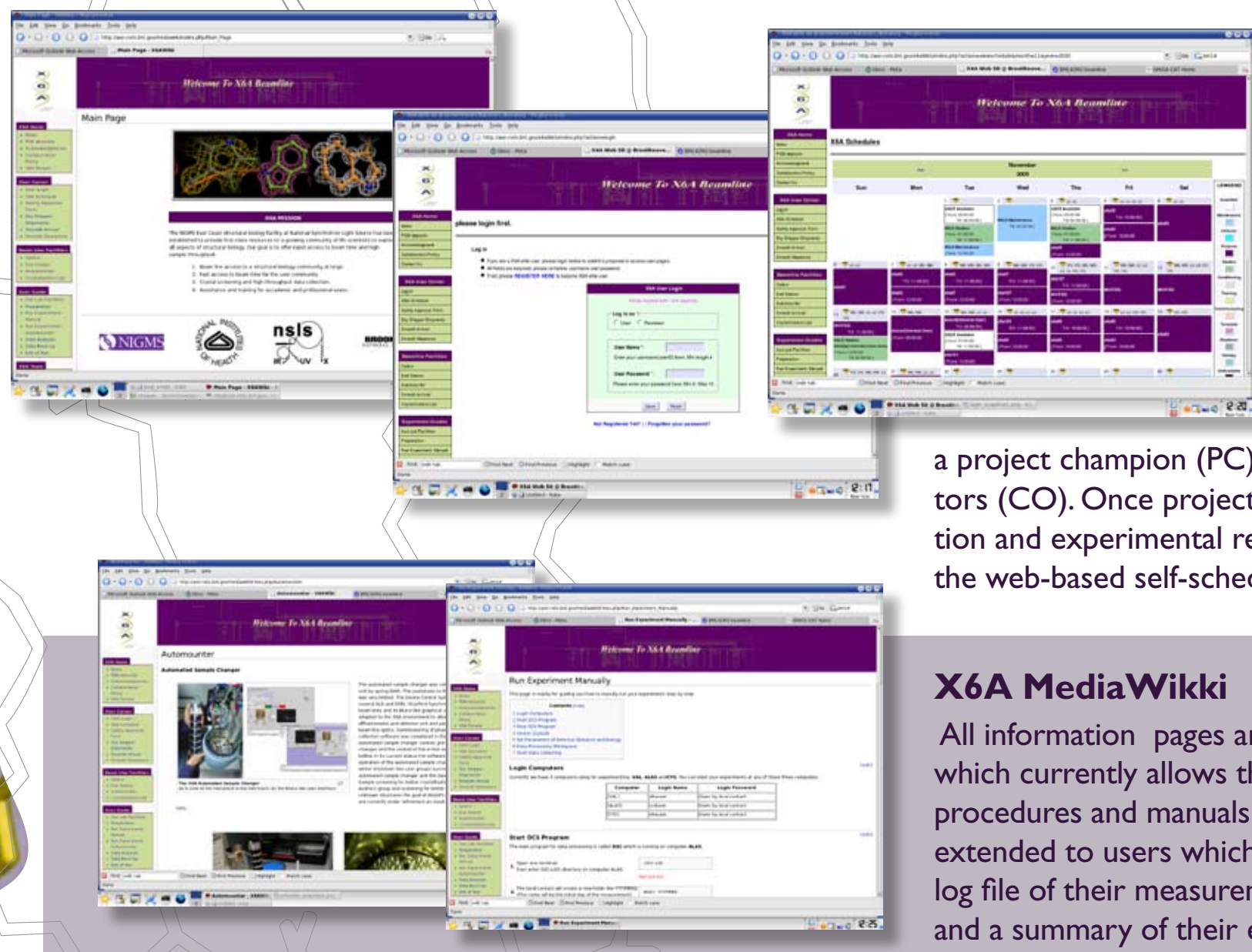
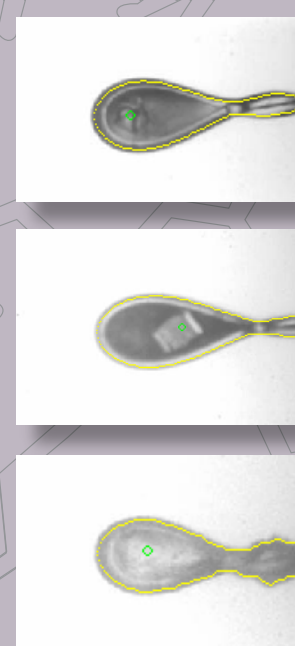
The automated sample mounter

The control system is integrated with the beam line control and data collection software through a Blucel like interface. 16 samples can be screened in less than 2 hours. Sample holders (pucks) and all the necessary tools are available on loan.



Crystal Centroid Identification

Our loop and crystal centroid finding algorithm has been tested on over 100 images of 15 crystals from different proteins. Loop finding was successful in all cases, and is resistant to non-uniform illumination and background artifacts. Crystal centroid finding showed an accuracy of about 80% for images where the crystal was visible inside the loop. This information, along with the known x-ray beam position, is used to send instructions to the goniometer to later center the sample in the beam.



X6A web page

To allow for high throughput data the X6A web pages are being restructured. Project submission will consist only of a brief abstract and will include the expression organism, protein sequence, and funding agency. Projects will belong to groups, defined by a principal investigator (PI), a project champion (PC) and experimenters, collaborators (CO). Once projects are approved crystal information and experimental requirements are requested for the web-based self-scheduling interface.

X6A MediaWikki

All information pages are powered by MediaWiki which currently allows the beamline staff to update the procedures and manuals on line. The concept will be extended to users which will be able keep an electronic log file of their measurement and to submit comments and a summary of their experiments

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